## IN THE CLAIMS:

- (CURRENTLY AMENDED) An irrigation control system for land comprising:
- (a) at least one meter to measure one or more weather conditions in a first area;
- (b) (a) at least one monitor to (i) examine rainfall data derived from a radar scanning at least the <u>a</u> first area according to predetermined criteria and (ii) to extract weather data which is representative of the scanned rainfall in a sub-area of the first area;
- (c) (b) a storage device to store the extracted data; and
  (d) (c) a controller connected directly or indirectly to the meter
  and the monitor and to the storage device to calculate a moisture content
  value for the sub-area based on said rainfall data, and to regulate the
  irrigation in a sub-area in accordance with said moisture content.
- 2. (ORIGINAL) The irrigation control system of claim 1 wherein regulation of irrigation in the sub-area is either by initiating or preventing irrigation of the sub-area depending upon whether the moisture content value is less than or more than the predetermined moisture content value for the sub-area.
- (PREVIOUSLY AMENDED) The irrigation system of claim 1
   wherein there is one monitor.

- 4. (PREVIOUSLY AMENDED) The irrigation system of claim 1
   wherein the weather conditions measured include solar radiation.
- 5. (PREVIOUSLY AMENDED) The irrigation system of claim 1 wherein the monitor is integrated with the controller.
- 6. (PREVIOUSLY AMENDED) The irrigation system of claim 1 wherein the controller is a computer.
- 7 (PREVIOUSLY AMENDED) The irrigation system of claim I wherein the irrigation control system further comprises a local switch in the sub-area to initiate or prevent irrigation in response to signals from the controller.
- 8 (ORIGINAL) The irrigation system of claim 7 wherein the local switch in the sub-area activates or de-activates a local controller for initiating or preventing the irrigation, in response to signals from the controller.
- 9. (PREVIOUSLY AMENDED) The irrigation system of claim 7 wherein the irrigation control system further comprises an interruptor to interrupt irrigation in the sub-area.
  - 10. (ORIGINAL) The irrigation system of claim 9 wherein the interruptor interrupts irrigation in the sub-area in response to rainfall in the

sub-area.

- 11. (PREVIOUSLY AMENDED) The irrigation system of claim 9 wherein the interruption occurs for a period of time determined by the controller.
- 12. (CURRENTLY AMENDED) A method of irrigating land is provided comprising

the steps of:

- (a) measuring one or more weather conditions in a first area;
- (b) examining rainfall data derived from a radar scanning at least the first area according to predetermined criteria and extracting weather data which is representative of the scanned data\_rainfall\_in a sub-area of the first area;
  - (c) storing the extracted data;
- (d) calculating a moisture content value for the sub-area <u>based on said</u>

  <u>rainfall</u> and a predetermined moisture content value for the sub-area; and
  - (e) regulating the irrigation of the sub-area.
- 13. (ORIGINAL) The method of claim 12 wherein the regulation of the irrigation of the sub-area is either by initiating or preventing irrigation of the sub-area depending upon whether the moisture content value is less than or more than the predetermined moisture content value for the sub-area.

- 14. (PREVIOUSLY AMENDED) The method of claim 12 wherein the measurement in step (a) is carried out in the same sub-area as that in which the measurement is carried out in step (b).
- 15. (PREVIOUSLY AMENDED) The method of claim 12 wherein the method comprises a further step of: (f) sensing for rainfall in the sub-area during irrigation and interrupting irrigation in response to rainfall in the sub-area for a period of time controlled by the duration and amount of rainfall.
- 16. (CURRENTLY AMENDED) The irrigation system of claim 2 <u>further</u> comprising at least one meter to measure one or more weather conditions in said first <u>area</u> wherein the weather conditions measured include solar radiation.
- 17. (ADDED PREVIOUSLY) The irrigation system of claim 10 wherein the interruption occurs for a period of time determined by the controller.